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In re application of:  
POHRER, Christopher

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For: *HEIGHT-ADJUSTABLE  
VOLLEYBALL NET AND STANDARD  
SYSTEM AND METHOD*

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## **II. Related Appeals and Interferences**

No appeals or interferences are related to this appeal.

## **III. Status of Claims**

Claims 1-10, 19 and 20 are currently pending. The claims on appeal are claims 1-10, 19 and 20. The claims on appeal are set forth in full in Appendix A attached hereto and incorporated herein.

## **IV. Status of Amendments**

The amendments to the claims presented in AMENDMENT A have been entered. No amendments after final rejection have been presented.

## **V. Summary of the Invention**

As specified in independent claim 1 on appeal, this invention is directed to a method of adjusting the height of a volleyball net 22 (Fig. 1). The method comprises securing first and second net standards 24, 26 to a support surface, such as a floor F, in a manner so that the net standards extend up from the support surface in a generally upright position (Fig. 1; page 9, lines 15-17). Each net standard 24, 26 comprises a lower post section 40 and an upper post section 42 slidably connected to the lower post section for telescoping movement of the upper post section relative to the lower post section along a post axis X between a raised position and a lowered position (Fig. 2; page 6, line 24 to page 7, line 2). The method further comprises providing a net and

cable assembly comprising a net 22 and a net-supporting cable 28 (Fig. 1). The net 22 has an upper edge margin 30 and a cable-receiving sleeve 36 at its upper edge margin (Fig. 1; page 5, line 23 to page 6, line 3). The upper edge margin 30 has first and second ends 90, 92 and a mid-point 94 midway between the first and second ends (Fig. 1; page 9, line 23 to page 10, line 1). The net-supporting cable 28 extends through the cable-receiving sleeve 36 of the net 22 (Fig. 1, page 9, lines 17-19). The method further comprises operatively connecting the net-supporting cable 28 to the upper post sections 42 of the first and second net standards 24, 26 in a manner so that the net 22 is between the first and second net standards and extends downward from the net-supporting cable (Figs. 1 and 2; page 9, line 17-22). The method further comprises tensioning the net-supporting cable 28 to a net-supporting tension which is sufficiently great that the elevation of the first and second ends 90, 92 of the net's upper edge margin 30 does not exceed the elevation of the mid-point 94 of the net's upper edge margin by more than approximately 3/4" (2 cm) when the first and second ends of the net's upper edge margin are at approximately the same elevation (Page 10, lines 1-8). The method further comprises moving the upper post sections 42 of the first and second net standards 24, 26 between their raised and lowered positions without reducing the tension of the cable below the net-supporting tension (Page 10, line 14 to page 11, line 3).

As specified in dependent claim 2, which depends from claim 1, the method further comprises providing a tensioning mechanism 76 on the upper post section 42 of the first net standard 24 (Figs. 1 and 2; page 8, lines 7-9). The step of tensioning the

net-supporting cable 28 comprises using the tensioning mechanism 76 to tension the net-supporting cable to the net-supporting tension (Page 10, lines 1-8).

As specified in dependent claim 3, which depends from claim 1, the method further comprises providing a winch mechanism 78 on the upper post section 42 of the first net standard 24 (Figs. 1 and 2; page 8, lines 7-9, lines 13-15). The step of tensioning the net-supporting cable 28 comprises using the winch mechanism 78 to tension the net-supporting cable to the net-supporting tension (Page 10, lines 1-8).

As specified in dependent claim 4, which depends from claim 3, the winch mechanism 78 moves with the upper post section 42 of the first net standard 24 as the upper post section of the first net standard is moved between its raised and lowered positions (Fig. 2).

As specified in dependent claim 5, which depends from claim 1, each net standard 24, 26 further comprises a crank-operable drive mechanism 44 having a crank 66 rotatable about a crank axis D (Fig. 2; page 7, lines 7-22). The upper post section 42 of each net standard is moved between its raised and lowered positions by rotating the crank 66 of the corresponding net standard about its crank axis D (Page 8, lines 2-6).

As specified in dependent claim 6, which depends from claim 1, each net standard 24, 26 further comprises a drive mechanism 44 operable to move the upper post section 42 of the corresponding net standard between its raised and lowered positions (Fig. 2; page 7, lines 7-22). The step of moving the upper post sections 42 of the first and second net standards 24, 26 is accomplished by operating the drive mechanisms (Page 8, lines 2-6).

As specified in dependent claim 7, which depends from claim 6, the drive mechanism 44 of each net standard comprises a screw-type drive mechanism having an elongate screw 60 extending generally along the post axis X, and a threaded adjuster member 62 threadably engageable with the elongate screw (Fig. 2; page 7, lines 8-10). The elongate screw 60 is operatively connected to one of the upper and lower post sections 40, 42 in a manner to permit rotation of the screw 60 about the post axis X and relative to the one post section and the threaded adjuster member 62 is operatively secured to the other of the upper and lower post sections, (Fig. 2; page 7, lines 11-16). The upper and lower post sections 40, 42, the adjuster member 62 and the screw 60 are arranged and configured so that rotation of the screw effectuates movement of the upper post section 42 relative to the lower post section 40 between its raised and lowered positions, and the step of moving the upper post sections of the first and second net standards is accomplished by rotating the screws (Fig. 2; page 7, lines 11-19).

As specified in dependent claim 8, which depends from claim 1, the step of securing the first and second net standards 24, 26 to the support surface (e.g., floor F) comprises securing the first and second net standards to the support surface in a manner so that the first and second net standards are spaced apart by at least 32 feet, and the step of providing the net and cable assembly comprises providing the net 22 so that the distance between the first and second ends 90, 92 of the edge margin 30 is at least thirty feet (Page 9, lines 10-12; page 10, lines 8-9).

As specified in dependent claim 9, which depends from claim 8, the step of moving the upper post sections 42 of the first and second net standards 24, 26

comprises lowering the upper post sections of the first and second standards to change the height of the mid-point of the net's upper edge margin from about 7 feet, 11 5/8 inches to about 7 feet, 4 1/8 inches without reducing the tension of the cable below the net-supporting tension (Page 10, line 14 to page 11, line 3).

As specified in independent claim 10 on appeal, this invention is directed to a method of adjusting the height of a volleyball net 22 (Fig. 1). The method comprises securing first and second net standards 24, 26 to a support surface, such as a floor F, in a manner so that the net standards extend up from the support surface in a generally upright position (Fig. 1; page 9, lines 15-17). Each net standard 24, 26 comprises a lower post section 40, an upper post section 42 slidably connected to the lower post section for telescoping movement of the upper post section relative to the lower post section along a post axis X between a raised position and a lowered position, and a drive mechanism 44 operable to move the upper post section between its raised and lowered positions (Fig. 2; page 6, line 24 to page 7, line 22). The method further comprises providing a net and cable assembly comprising a net 22 and a net-supporting cable 28 (Fig. 1). The net has an upper edge margin 30 and a cable-receiving sleeve 36 at its upper edge margin (Fig. 1; page 5, line 23 to page 6, line 3). The upper edge margin 30 has first and second ends 90, 92 and a mid-point 94 midway between the first and second ends (Fig. 1; page 9, line 23 to page 10, line 1). The net-supporting cable 28 extending through the cable-receiving sleeve 36 of the net 22 (Fig. 1, page 9, lines 17-19). The method further comprises operatively connecting the net-supporting cable 28 to the upper post sections 42 of the first and second net standards 24, 26 in a manner so that the net 22 is between the first and second net standards and extends

downward from the net-supporting cable (Figs. 1 and 2; page 9, lines 17-22). The method further comprises providing a tensioning mechanism 76 on the upper post section 42 of the first net standard 24 (Fig. 2). The method further comprises using the tensioning mechanism 76 to tension the net-supporting cable 28 between the upper post sections 42 of the first and second net standards 24, 26 to a net-supporting tension which is sufficiently great that the elevation of the first and second ends 90, 92 of the net's upper edge margin 30 does not exceed the elevation of the mid-point 94 of the net's upper edge margin by more than approximately 3/4" (2 cm) when the first and second ends of the net's upper edge margin are at approximately the same elevation (Page 10, lines 1-8). The method further comprises operating the drive mechanism 44 of the first net standard 24 to move the upper post section 42 of the first net standard 24 between its raised and lowered positions without reducing the tension of the cable 28 below the net-supporting tension and to move the tensioning mechanism therewith, and operating the drive mechanism 44 of the second net standard 26 to move the upper post section 42 of the second net standard 26 between its raised and lowered positions without reducing the tension of the cable 28 below the net-supporting tension (Page 10, line 14 to page 11, line 3).

As specified in dependent claim 19, which depends from claim 10, the steps of operating the drive mechanisms 44 of the first and second net standards 24, 26 comprises lowering the upper post sections 42 of the first and second standards to change the height of the mid-point of the net's upper edge margin from about 7 feet, 11 5/8 inches to about 7 feet, 4 1/8 inches without reducing the tension of the cable below the net-supporting tension (Page 10, line 14 to page 11, line 3).



As specified in dependent claim 20, which depends from claim 10, the steps of operating the drive mechanisms 44 of the first and second net standards 24, 26 comprise raising the upper post sections 42 of the first and second standards to change the height of the mid-point of the net's upper edge margin from about 7 feet, 4 1/8 inches to about 7 feet, 11 5/8 inches without reducing the tension of the cable below the net-supporting tension (Page 10, line 14 to page 11, line 3).

## **VI. Issues**

A. Whether the Examiner incorrectly concluded that claims 1-6, 8-10, 19 and 20 are made obvious by the combination of Koole U.S. Patent 5,308,085 and Burns U.S. Patent 4,153,247.

B. Whether the Examiner incorrectly concluded that claim 7 is made obvious by the combination of Koole U.S. Patent 5,308,085, Burns U.S. Patent 4,153,247, and Senoh U.S. Patent 4,122,451.

## **VII. Groupings of Claims**

Claims 1-4 stand together with respect to issue A. Claim 5 stands alone with respect to issue A; this claim is allowable for the same reasons as claim 1 under issue A and as explained below is allowable for additional reasons. Claim 6 stands alone with respect to issue A; this claim is allowable for the same reasons as claim 1 under issue A and as explained below is allowable for additional reasons. Claim 8 stands alone with respect to issue A; this claim is allowable for the same reasons as claim 1 under issue A and as explained below is allowable for additional reasons. Claim 9 stands alone with

respect to issue A; this claim is allowable for the same reasons as claim 8 under issue A and as explained below is allowable for additional reasons. Claim 10 stands alone with respect to issue A. Claim 19 stands alone with respect to issue A; this claim is allowable for the same reasons as claim 10 under issue A and as explained below is allowable for additional reasons. Claim 20 stands alone with respect to issue A; this claim is allowable for the same reasons as claim 10 under issue A and as explained below is allowable for additional reasons.

Claim 7 stands alone with respect to issue B.

## **VIII. Argument**

**Argument Introduction.** In volleyball, it is often necessary to change the height of the net (e.g., between heights of 7 feet, 4 1/8 inches for women's volleyball and 7 feet, 11 5/8 inches for men's volleyball). A typical volleyball net system has two net standards, a net, and a net supporting cable tensioned between the net standards when the system is in use. With prior art volleyball net systems, tension had to be removed from the net supporting cable before the height of the net standards could be changed. Applicant's present application points out that changing the height of a volleyball net with prior art net systems is time consuming and difficult. The game net posts described in Applicant's present application enable a person to change the height of the net standards without the need to reduce the tension of the net supporting cable. The patents cited in the Examiner's rejections have nothing to do with overcoming the disadvantages pointed out by Applicant. The cited patents fail to disclose or suggest

Applicant's claimed method of moving net standards between raised and lowered positions without reducing the tension below that necessary to properly support the net.

**A. Claims 1-6, 8-10, 19 And 20 Are Not Made Obvious  
By Koole U.S. Patent 5,308,085 And Burns U.S.  
Patent 4,153,247.**

Applicant's independent claim 1 is not made obvious by the Koole and Burns patents. Independent claim 1 is directed to a method of adjusting the height of a volleyball net. Claim 1 requires, *inter alia*, tensioning the net-supporting cable to a net-supporting tension which is sufficiently great that the elevation of the first and second ends of the net's upper edge margin does not exceed the elevation of the mid-point of the net's upper edge margin by more than approximately 3/4" (2 cm) when the first and second ends of the net's upper edge margin are at approximately the same elevation, and moving the upper post sections of the first and second net standards between their raised and lowered positions ***without reducing the tension of the cable below the net-supporting tension.***

To present a *prima facie* case of obviousness of claim 1, the Examiner must show some disclosure, teaching or suggestion in the prior art of the claimed method. The Examiner has made no such showing. In rejecting claim 1, the Examiner relies primarily on the Koole patent. The Koole patent discloses a game net post having a lower pipe, an upper pipe, a tensioning mechanism secured to the upper pipe, and an internal counterbalance. A user raises or lowers the upper pipe via a handle 4 affixed to the upper pipe. When the upper pipe is at the desired elevation, the user turns a locking knob 5 to lock the upper pipe to the lower pipe. The Koole patent fails to disclose or suggest raising or lowering the upper pipe without reducing tension of a net

supporting cable below a net-supporting cable as defined by Applicant's claim 1. The Koole patent does not even disclose or suggest raising or lowering the pipe while a net supporting cable is tensioned at all. Rather, the Koole patent suggests that the net is attached to the game net posts only after the game net posts have been moved to and fixed in the one position desired for play. In particular, the Koole patent describes a "condition ready for use" position as a set height position of the game net post. Column 5, lines 25-30. The Koole patent defines the "condition ready for use" as a position "in which the game net could be attached to the post." Column 1, lines 19-22. In other words, the Koole patent describes its game net post as being slidably telescoped between a retracted stored condition and an extended ready for use condition, but discloses attaching the game net to the post only when the post is in its ready for use condition. Thus, the Koole patent does not disclose or suggest Applicant's claimed method of moving the upper post sections of the first and second net standards between their raised and lowered positions without reducing the tension of the cable below the net-supporting tension.

The Examiner cites the Burns patent only to show specifics of the net (i.e., that the Burns net has upper and lower sleeves), and not for any features associated with changing the height of volleyball net standards. The Burns patent describes a net system in which the net is attached to the posts before the posts are even horizontally positioned. As described in the section of the Burns patent associated with Fig. 6, tensioning of the Burns net supporting cable causes the posts to roll horizontally until the posts are in their proper position. Thus, the Koole and Burns patents, whether considered together or individually, fail to disclose or suggest Applicant's claim 1.

The Examiner asserts that in order to use Koole's assembly, one would inherently have to practice the method of Applicant's claim 1. December 12, 2002 Office Action, pp. 3-4. Apparently, the Examiner is arguing that to use Koole's assembly, one must necessarily have to tension the net supporting cable to the net-supporting tension defined by Applicant's claim 1, and then change the height of the game net posts without reducing the tension of the net supporting cable. Of course, the Examiner's assertion is contrary to the specification of the Koole patent itself. As explained above, the Koole patent indicates that the game net post is moved between retracted and extended positions only when the net is not attached to the post. The Koole patent discloses attachment of the net to the post only when the game net post is fixed in its condition ready for use position. Thus, the Examiner's inherency argument is incorrect<sup>1</sup>.

Further, it is doubtful that the game net post structure described in the Koole patent is even capable of being moved between raised and lowered positions if the net cable were tensioned to the extent required by Applicant's pending claims. If the net cable were so tensioned, the friction between the upper and lower pipe pieces would be so great that one could not pull on Koole's handle 4 with sufficient force to raise or lower the standards. Thus, the asserted structure is not capable of performing the steps required by Applicant's pending claims. For this additional reason, the Koole patent, whether considered independently or in combination with the Burns patent, does not make obvious the method of Applicant's claim 1.

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<sup>1</sup> Moreover, an obviousness rejection cannot be based on inherency. (see *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ 2d 1955 (Fed. Cir. 1993))

For the reasons set forth above, the Examiner's rejection of claim 1 should be reversed.

Claims 2-4 depend from claim 1. Accordingly, these claims are not made obvious by the Koole and Burns patents for the same reasons claim 1 is not made obvious. Thus, the Examiner's rejections of claims 2-4 should be reversed.

Claim 5 depends from claim 1. Accordingly, claim 5 is not made obvious by the Koole and Burns patents for the same reasons claim 1 is not made obvious. Claim 5 further requires (a) that each net standard further comprises a crank-operable drive mechanism having a crank rotatable about a crank axis, and (b) that the upper post section of each net standard is moved between its raised and lowered positions by rotating the crank of the corresponding net standard about its crank axis. The Koole and Burns patents, whether considered together or independently, fail to disclose or suggest a crank-operable drive mechanism in which an upper post section is moved relative to a lower post section by rotating a crank about a crank axis. Thus, the rejection of claim 5 should be reversed for this additional reason.

Claim 6 depends from claim 1. Accordingly, claim 6 is not made obvious by the Koole and Burns patents for the same reasons claim 1 is not made obvious. Claim 6 further requires that each net standard further comprises a drive mechanism operable to move the upper post section of the corresponding net standard between its raised and lowered positions and requires the step of moving the upper post sections of the first and second net standards be accomplished by operating the drive mechanism. The Koole and Burns patents, whether considered together or independently, fail to disclose or suggest a drive mechanism operable to move an upper post section relative to a

lower post section. Thus, the rejection of claim 6 should be reversed for this additional reason.

Claim 8 depends from claim 1. Accordingly, claim 8 is not made obvious by the Koole and Burns patents for the same reasons claim 1 is not made obvious. Claim 8 further requires (a) that the first and second net standards be secured to the support surface in a manner so that the first and second net standards are spaced apart by at least 32 feet, and (b) that the distance between the first and second ends of the edge margin be at least thirty feet. These requirements of claim 8 further limit the definition of the net-supporting tension. Claim 8 requires the net-supporting tension of the net-supporting cable to be sufficiently great that the elevation of the first and second ends of the net edge margin do not exceed the elevation of the mid-point by more than  $\frac{3}{4}$ " (2 cm) even though the first and second ends are at least thirty feet apart. Claim 8 (via claim 1) requires moving the upper post sections between their raised and lowered positions without reducing the tension of the cable below this net-supporting tension. The Koole and Burns patents, whether considered together or independently, fail to disclose or suggest the requirements of claim 8. Thus, the rejection of claim 8 should be reversed for this additional reason.

Claim 9 depends from claim 8. Accordingly, claim 9 is not made obvious by the Koole and Burns patents for the same reasons claim 8 is not made obvious. Claim 9 further requires lowering the upper post sections to change the height of the mid-point of the net's upper edge margin from about 7 feet, 11  $\frac{5}{8}$  inches to about 7 feet, 4  $\frac{1}{8}$  inches without reducing the tension of the cable below the net-supporting tension. The Examiner points out that these are standard heights used when playing a regulation

game of volleyball. However, the fact that the heights themselves are standard heights is irrelevant to whether the Koole and Burns patents disclose or suggest making the change in height without reducing the tension of the cable below the net-supporting tension. The Koole and Burns patents do not disclose or suggest the additional requirements of claim 9. The Examiner has not even shown that the modified Koole net system proposed by the Examiner is even capable of performing the method of claim 9. Thus, the rejection of claim 9 should be reversed for these additional reason.

Applicant's independent claim 10 is not made obvious by the Koole and Burns patents. Independent claim 10 is directed to a method of adjusting the height of a volleyball net. Claim 10, like claim 1, requires, *inter alia*, tensioning the net-supporting cable to a net-supporting tension which is sufficiently great that the elevation of the first and second ends of the net's upper edge margin does not exceed the elevation of the mid-point of the net's upper edge margin by more than approximately 3/4" (2 cm) when the first and second ends of the net's upper edge margin are at approximately the same elevation, and moving the upper post sections of the first and second net standards between their raised and lowered positions ***without reducing the tension of the cable below the net-supporting tension***. Accordingly, the obviousness rejection of claim 10 should be reversed for all of the same reasons discussed above with respect to claim 1.

Claim 10 further requires (a) each net standard to comprise a drive mechanism operable to move the upper post section between its raised and lowered positions, (b) operating the drive mechanism of the first net standard to move the upper post section of the first net standard between its raised and lowered positions without reducing the tension of the cable below the net-supporting tension, and (c) operating the drive



mechanism of the second net standard to move the upper post section of the second net standard between its raised and lowered positions without reducing the tension of the cable below the net-supporting tension. The Koole and Burns patents, whether considered together or independently, fail to disclose or suggest claim 10's requirements of net standards having drive mechanisms operable to move upper post sections relative to lower post sections, and operating the drive mechanism of each of the net standards to move the upper post section of each of the net standards relative to its corresponding lower post section between the raised and lowered positions. Thus, the rejection of claim 10 should be reversed for this additional reason.

Claim 19 depends from claim 10. Accordingly, claim 19 is not made obvious by the Koole and Burns patents for the same reasons claim 10 is not made obvious. Claim 19 further requires lowering the upper post sections to change the height of the mid-point of the net's upper edge margin from about 7 feet, 11 5/8 inches to about 7 feet, 4 1/8 inches without reducing the tension of the cable below the net-supporting tension. The Examiner points out that these are standard heights used when playing a regulation game of volleyball. However, the fact that the heights themselves are standard heights is irrelevant to whether the Koole and Burns patents disclose or suggest lowering the net standards from the first height to the second height without reducing the tension of the cable below the net-supporting tension. The Koole and Burns patents do not disclose or suggest the additional requirements of claim 19. The Examiner has not even shown that the modified Koole net system proposed by the Examiner is even capable of performing the method of claim 19. Thus, the rejection of claim 19 should be reversed for these additional reason.

Claim 20 depends from claim 10. Accordingly, claim 20 is not made obvious by the Koole and Burns patents for the same reasons claim 10 is not made obvious. Claim 20 further requires raising the upper post sections to change the height of the mid-point of the net's upper edge margin from about 7 feet, 4 1/8 inches to about 7 feet, 11 5/8 inches without reducing the tension of the cable below the net-supporting tension. The Examiner points out that these are standard heights used when playing a regulation game of volleyball. However, the fact that the heights themselves are standard heights is irrelevant to whether the Koole and Burns patents disclose or suggest raising the net standards from the first height to the second height without reducing the tension of the cable below the net-supporting tension. The Koole and Burns patents do not disclose or suggest the additional requirements of claim 20. The Examiner has not even shown that the modified Koole net system proposed by the Examiner is even capable of performing the method of claim 9. Thus, the rejection of claim 20 should be reversed for these additional reason.

**B. Claim 7 Is Not Made Obvious By Koole U.S. Patent 5,308,085, Burns U.S. Patent 4,153,247, and Senoh U.S. Patent 4,122,451.**

Claim 7 depends from claim 6 and therefore has all of the requirements of claims 1 and 6. As such, claim 7 is not made obvious by the Koole and Burns patents for the same reasons as claims 1 and 6. The Senoh patent, whether considered alone or in combination with the Koole and Burns patents also fails to make obvious claims 1 and 6. Thus, the Koole, Burns and Senoh patents do not make obvious claim 7.

Claim 7 further requires, *inter alia*, that the drive mechanism of each net standard comprises a screw-type drive mechanism having an elongate screw extending generally

along the post axis, and that the components of the drive mechanism are arranged and configured so that rotation of the screw effectuates movement of the upper post section relative to the lower post section between its raised and lowered positions, and wherein the step of moving the upper post sections of the first and second net standards is accomplished by rotating the screws.

The Senoh Patent discloses a net post system having an upper tube, a lower tube, and a transmission mechanism for moving the upper tube relative to the lower tube. The Examiner asserts that it would have been obvious to replace Koole's counterbalance mechanism with the Senoh transmission mechanism. However, the Examiner provides no evidence from either of these patents or from the prior art generally for making such replacement. To present a *prima facie* case of obviousness, the Examiner must show some objective teaching leading to the combination. *In re Dembiczak*, 175 F.3d 994, 50 U.S.P.Q. 2d 1614, 1617 (Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references."). The Examiner has provided no evidence of any motivation, teaching or suggestion for combining Senoh with Koole. Thus, the replacement proposed by the Examiner is improper. Moreover, the replacement proposed by the Examiner would eviscerate the teaching of the Koole patent. The key aspect of the Koole patent is the counterbalance mechanism. The Examiner cannot show that one of ordinary skill in the art would have been motivated by some prior art teaching to make the combination proposed only by the Examiner. Moreover, claim 7 claims a method. The Examiner has not shown that

the Koole, Burns and Senoh patents make obvious the method of claim 7. Thus, the Examiner has not set forth a *prima facie* case of obviousness of claim 7. For these additional reasons, the rejection of claim 7 should be reversed.

#### **IX. Conclusion**

For the reasons set forth above, the Examiner's rejections of claims 1-10, 19 and 20 should be reversed.

Respectfully submitted,



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## **APPENDIX OF CLAIMS ON APPEAL**

1. A method of adjusting the height of a volleyball net comprising:

securing first and second net standards to a support surface, such as a floor, in a manner so that the net standards extend up from the support surface in a generally upright position, each net standard comprising a lower post section and an upper post section slidably connected to the lower post section for telescoping movement of the upper post section relative to the lower post section along a post axis between a raised position and a lowered position;

providing a net and cable assembly comprising a net and a net-supporting cable, the net having an upper edge margin and a cable-receiving sleeve at its upper edge margin, the upper edge margin having first and second ends and a mid-point midway between the first and second ends, the net-supporting cable extending through the cable-receiving sleeve of the net;

operatively connecting the net-supporting cable to the upper post sections of the first and second net standards in a manner so that the net is between the first and second net standards and extends downward from the net-supporting cable;

tensioning the net-supporting cable to a net-supporting tension which is sufficiently great that the elevation of the first and second ends of the net's upper edge margin does not exceed the elevation of the mid-point of the net's upper edge margin by more than approximately 3/4" (2 cm) when the first and second ends of the net's upper edge margin are at approximately the same elevation; and

moving the upper post sections of the first and second net standards between their raised and lowered positions without reducing the tension of the cable below the net-supporting tension.

2. A method as set forth in claim 1 further comprising providing a tensioning mechanism on the upper post section of the first net standard, and wherein the step of tensioning the net-supporting cable comprises using the tensioning mechanism to tension the net-supporting cable to the net-supporting tension.

3. A method as set forth in claim 1 further comprising providing a winch mechanism on the upper post section of the first net standard, and wherein the step of tensioning the net-supporting cable comprises using the winch mechanism to tension the net-supporting cable to the net-supporting tension.

4. A method as set forth in claim 3 wherein the winch mechanism moves with the upper post section of the first net standard as the upper post section of the first net standard is moved between its raised and lowered positions.

5. A method as set forth in claim 1 wherein each net standard further comprises a crank-operable drive mechanism having a crank rotatable about a crank axis, and wherein the upper post section of each net standard is moved between its raised and lowered positions by rotating the crank of the corresponding net standard about its crank axis.

6. A method as set forth in claim 1 wherein each net standard further comprises a drive mechanism operable to move the upper post section of the corresponding net standard between its raised and lowered positions, and wherein the step of moving the upper post sections of the first and second net standards is accomplished by operating the drive mechanisms.

7. A method as set forth in claim 6 wherein the drive mechanism of each net standard comprises a screw-type drive mechanism having an elongate screw extending generally along the post axis, and a threaded adjuster member threadably engageable with the elongate screw, the elongate screw being operatively connected to one of the upper and lower post sections in a manner to permit rotation of the screw about the post axis and relative to said one post section, the threaded adjuster member being operatively secured to the other of said upper and lower post sections, the upper and lower post sections and the adjuster member and the screw being arranged and configured so that rotation of the screw effectuates movement of the upper post section relative to the lower post section between its raised and lowered positions, and wherein the step of moving the upper post sections of the first and second net standards is accomplished by rotating the screws.

8. A method as set forth in claim 1 wherein:

the step of securing the first and second net standards to the support surface comprises securing the first and second net standards to the support surface in a

manner so that the first and second net standards are spaced apart by at least 32 feet;  
and

the step of providing the net and cable assembly comprises providing the net so that the distance between the first and second ends of the edge margin is at least thirty feet.

9. A method as set forth in claim 8 wherein the step of moving the upper post sections of the first and second net standards comprises lowering the upper post sections of the first and second standards to change the height of the mid-point of the net's upper edge margin from about 7 feet, 11 5/8 inches to about 7 feet, 4 1/8 inches without reducing the tension of the cable below the net-supporting tension.

10. A method of adjusting the height of a volleyball net comprising:

securing first and second net standards to a support surface, such as a floor, in a manner so that the net standards extend up from the support surface in a generally upright position, each net standard comprising a lower post section, an upper post section slidably connected to the lower post section for telescoping movement of the upper post section relative to the lower post section along a post axis between a raised position and a lowered position, and a drive mechanism operable to move the upper post section between its raised and lowered positions;

providing a net and cable assembly comprising a net and a net-supporting cable, the net having an upper edge margin and a cable-receiving sleeve at its upper edge margin, the upper edge margin having first and second ends and a mid-point midway



between the first and second ends, the net-supporting cable extending through the cable-receiving sleeve of the net;

operatively connecting the net-supporting cable to the upper post sections of the first and second net standards in a manner so that the net is between the first and second net standards and extends downward from the net-supporting cable;

providing a tensioning mechanism on the upper post section of the first net standard;

using the tensioning mechanism to tension the net-supporting cable between the upper post sections of the first and second net standards to a net-supporting tension which is sufficiently great that the elevation of the first and second ends of the net's upper edge margin does not exceed the elevation of the mid-point of the net's upper edge margin by more than approximately  $3/4$ " (2 cm) when the first and second ends of the net's upper edge margin are at approximately the same elevation;

operating the drive mechanism of the first net standard to move the upper post section of the first net standard between its raised and lowered positions without reducing the tension of the cable below the net-supporting tension, and to move the tensioning mechanism therewith; and

operating the drive mechanism of the second net standard to move the upper post section of the second net standard between its raised and lowered positions without reducing the tension of the cable below the net-supporting tension.

19. A method as set forth in claim 10 wherein the steps of operating the drive mechanisms of the first and second net standards comprises lowering the upper post

sections of the first and second standards to change the height of the mid-point of the net's upper edge margin from about 7 feet, 11 5/8 inches to about 7 feet, 4 1/8 inches without reducing the tension of the cable below the net-supporting tension.

20. A method as set forth in claim 10 wherein the steps of operating the drive mechanisms of the first and second net standards comprises raising the upper post sections of the first and second standards to change the height of the mid-point of the net's upper edge margin from about 7 feet, 4 1/8 inches to about 7 feet, 11 5/8 inches without reducing the tension of the cable below the net-supporting tension.